Invitation for Comments on "Short List" Candidates for the EPA Science Advisory Board's Panel on "Valuing the Protection of Ecological Systems and Services" May 1, 2003

The EPA Science Advisory Board (SAB, Board) announced in 68 FR 11082-11084, March 7, 2003 that it was forming a Panel on a self initiated project, "Valuing the Protection of Ecological Systems and Services" and requested nominations for potential panel members. Background on the project and details on panel nomination process reviewed appear in the above referenced Federal Register notice and are also available at the SAB website, (www.epa.gov/sab).

The Science Advisory Board Staff Office has reviewed the over 140 nominations for the Panel, and has narrowed the list of nominees to a "Short List" of 44 candidates based on the qualifications and interest of the nominees. Brief biosketches of the 44 candidates on the current "Short List" are listed below for comment. We invite comments from the public on these candidates. We welcome information, analysis or documentation that the Board should consider in evaluating the "Short List" remaining candidates. Individuals should send their comments to Dr. Angela Nugent, Designated Federal Officer for the Panel, by May 22, via email to nugent.angela@epa.gov. Information provided will be carefully considered in selecting the panel, which will be composed of 20-25 experts. Individuals on the short list, who are not chosen for the Panel, may be asked to serve as consultants on specific sub-topics related to valuing the protection of ecological systems and services.

The SAB Staff Office Director, in consultation with SAB leadership, as appropriate, makes the final decision about who will serve on the panel in the "Panel Selection" phase. In that phase, SAB Staff completes its review of information regarding conflict of interest, possible appearance of impartiality, and appropriate balance and breadth needed to address the charge. They review all the information provided by the candidates, along with any information that the public may provide in response to the posting of information about the prospective panel on the SAB website during the "Short List Phase," and information gathered by SAB Staff independently on the background of each candidate. Individuals

"Short Li	"Short List" for SAB Panel on "Valuing the Protection of Ecological Systems and Services"			
Ascher, William Louis	Claremont College	Dr. William Ascher (PhD, Political Science, Yale University) is the Donald C. McKenna Professor of Government and Economics at Claremont McKenna College, where he also serves as Vice President and Dean of the Faculty. His research covers environmental and natural resource policymaking, evaluation and forecasting methodologies, and policymaking processes in developing countries. As the Director of the Duke University Center for International Development Research, he led workshops on the valuation of environmental services for the UN Food and Agriculture Organization and several national governments. He also undertook World Bank-funded research on the valuation of oil and mineral assets. His most recent books are Why Governments Waste Natural Resources (1999), The Caspian Sea: A Quest for Environmental Security (ed. with Natalia Mirovitskaya, 2000), and Guide to Sustainable Development and Environmental Policy (ed. with Natalia Mirovitskaya, 2001). He has also published two books on political-economic forecasting: Forecasting: An Appraisal for Policymakers and Planners (1978), and Strategic Planning and Forecasting (with William Overholt, 1983). He served on the Advisory Group on the Future of Science, U.S. House of Representatives Subcommittee on Science, Committee on Science, Space and Technology. His most recent grants included funding from NATO for work on the environmental issues of the Caspian Sea, and before that from the World Bank and USAID for work on natural resource and environmental policies in developing countries.		
Biddinger, Gregory	Exxon Mobil Refining and Supply Company	Dr. Gregory Biddinger is an aquatic ecotoxicologist and Environmental Sciences Advisor with Exxon-Mobil Refining & Supply Company. In his current position he is responsible for developing business planning processes to improve environmental performance, participating in the creation of international standards on environmental management and providing leadership and technical support to business lines on wildlife conservation initiatives. In addition to the SAB he has been active in numerous Society of Environmental Toxicology and Chemistry (SETAC) expert panels and Organisation for Economic Cooperation and Development peer reviews. His many other professional activities include chairmanship of American Society for Testing and Materials, Chemical Manufacturers Association and ISO technical committees. He is currently the Chair of the SETAC Ecological Risk Assessment Advisory Group. He has published broadly in the area of aquatic toxicology on inorganic Arsenicals, Phthalate Esters, chemical dispersants, and the use of microcosms in estimation of tropic transfer of contaminants. As well, Dr. Biddinger has published or edited proceedings on ecological risk assessment and risk management, including such topics as the ecological risks of contaminated sediments, decision support systems, sustainable environmental management and integrated environmental decision-making. His current technical and policy focus is improving the utility of environmental science to make effective and sustainable environmental management decisions. Dr. Biddinger has been reappointed to a second term on the Science Advisory Board's Ecological Processes and Effects Committee.		
Bostrom, Anne	Georgia Institute of Technology	Dr. Ann Bostrom (B.A. in English, University of Washington; M.B.A., Western Washington University; Ph.D. in Public Policy Analysis, Carnegie Mellon University) is an Associate Professor in the School of Public Policy at the Georgia Institute of Technology, where she teaches quantitative and qualitative research methods, environmental risk, and risk communication at the graduate and undergraduate levels. Dr. Bostrom has research interests in risk perception, communication and management, and in cognitive aspects of survey methodology. Her research focuses on mental models of hazardous processes (how people understand and make decisions about risks), and is funded by the National Science Foundation, National Institutes of Health, and the U.S. Environmental Protection Agency. She has published in journals such as Risk Analysis, RISK: Health, Science and Environment, Environmental Science & Technology, and the Journal of Social Issues. She co-authored Risk Communication: A Mental Models Approach, Cambridge University Press, 2001, with M. Granger Morgan, Baruch Fischhoff, and Cynthia Atman. Before beginning her doctoral studies, Dr. Bostrom worked as a summer intern in the Economic Statistics division of the US Bureau of the Census. As a graduate student, Dr. Bostrom received a Fulbright scholarship and the Lois Roth endowment award to study at Stockholm University. Before moving to Georgia Tech, Dr. Bostrom completed one year of postdoctoral research on perceptions of global climate change in the Department of Engineering and Public Policy at Carnegie Mellon University, and a second year on hours at work questions as an American Statistical Association/ National Science Foundation/Bureau of Labor Statistics research associate in the cognitive laboratory at the Bureau of Labor Statistics. In 1997, Dr. Bostrom directed the Decision,		

		Risk and Management Science Program at the National Science Foundation. Dr. Bostrom is a member of the Board of Scientific Counselors, advisory to the Office of Research and Development at the U.S. Environmental Protection Agency, and of the National Academy of Science Committee on Optimizing the Characterization and Transportation of Transuranic Waste Destined for the Waste Isolation Pilot Plant, which is a project of its Board on Radioactive Waste. She has also consulted for the Science Advisory Board of the U.S. Environmental Protection Agency on environmental risk communication, the Institutes of Medicine on vaccine risk communication, and the Transportation Research Board on auto safety information, as well as for Scientific Environmental Associates, Inc. She participates in the Vaccine Risk Communication group (VARICO), organized by the Vaccine Safety Development Activities group of the National Immunization Program, Centers for Disease Control and Prevention. Dr. Bostrom is a Councilor for the international Society for Risk Analysis and a past Chair of its Risk Communications Specialty group.
Boyd, James	Resources for the Future	Dr. James Boyd has been a Fellow in the Energy and Natural Resources division of Resources for the Future since 1992. Dr. Boyd received his Ph.D. from the Public Policy and Management Department of the Wharton Business School at the University of Pennsylvania in 1993 and has been a Visiting Professor at the Olin Business School Washington University, St. Louis. He is current the Director of RFF's Energy and Natural Resources Division. His work is in the fields of environmental regulation and law and economics, focusing on the economic analysis of environmental liability law and environmental institutions. Work relevant to the panel includes research on the development of indicators to assess the social value of ecosystems. The work's overarching goal is the development and evaluation of economically sound approaches to ecosystem evaluation, in order to make judgments regarding the relative value of different ecosystems. Dr. Boyd also recently served on the USEPA Science Advisory Board, Panel to Examine Benefits, Costs & Impacts to the Underground Storage Tanks (UST) and Resource Conservation Recovery Act (RCRA) Subtitle C Program, 2002. He receives grants through RFF from EPA, the National Oceanic and Atmospheric Administration, the Army Corps of Engineers, and other Federal Agencies. RFF also receives project money from Foundations.
Chapman, David	National Oceanic and Atmospheric Administration	Mr. Chapman's expertise is in economics: Natural Resource Valuation / Non-Market Valuation, and policy: National Environmental Policy, Oil Pollution Act, CERCLA (Damage Assessment Provisions) His current position is the Chief of the Pacific Branch of NOAA's Damage Assessment Center. Mr. Chapman oversees all of the natural resource damage assessment work undertaken on the Pacific coast of the United States including Alaska and Hawaii. This work entails both economic and natural science efforts to identify injury to natural resources and ecosystems from releases of toxic chemicals and oil, and economic valuation of those injuries. In addition, he is acting senior economist for the damage assessment center, where he oversees development of new and innovative methods for valuation of natural resources. Mr. Chapman completed all Ph.D. level course work and qualifying exams at the University of California, Berkeley in the Department of Agricultural and Resource Economics. He currently has a Masters of Science in Resource and Environmental Economics. Dr. Chapman's specific area of expertise is in application of Non-Market Valuation techniques to natural resource valuation questions and placing these values in a policy relevant context. Specifically he has conducted, or participated in conducting numerous studies designed to measure the value of natural resources, ecological systems, and the services they provide to humans. He has been particularly interested in not only valuing the loss to the public from injury to natural resources, but the value of benefits that alternative restoration projects may provide. These studies have encompassed individual species, such as salmon, or birds, and habitats such as coral reef, salt marsh or mangrove. The main techniques used in the studies incorporate some variant of what is known as combined revealed and stated preference data, although a number of alternative methods have also been used. Finally, the main goal of undertaking these studies has been to place these values in a p
Costanza, Robert	University of Vermont	Dr. Robert Costanza is the Gund Professor of Ecological Economics and Director of the Gund Institute for Ecological Economics at the University of Vermont. Prior to moving to Vermont in August 2002, he was director of the University of Maryland Institute for Ecological Economics, and a professor in the Center for Environmental Science, at Solomons, and in the Biology Department at College Park. Dr. Costanza received his Ph.D. from the University of Florida in 1979 in systems ecology, with a minor in economics. He also has a Masters degree in Architecture and Urban and Regional Planning from the University of Florida. Dr. Costanza is co-founder and past-president of the International Society for Ecological Economics (ISEE) and was chief editor of the society's journal: Ecological Economics from its

inception until 9/02. He continues to serve as founding editor of the journal. He currently serves on the editorial board of eight other international academic journals. He is currently president of the International Society for Ecosystem Health. In 1982 he was selected as a Kellogg National Fellow, in 1992 he was awarded the Society for Conservation Biology Distinguished Achievement Award and in 1993 he was selected as a Pew Scholar in Conservation and the Environment. In 1998 he was awarded the Kenneth Boulding Memorial Award for Outstanding Contributions in Ecological Economics, In 2000 he received an honorary doctorate in natural sciences from Stockholm University. He has served on the Scientific Steering Committee for the Land-Ocean Interactions in the Coastal Zone International Project Office core project of the International Geosphere-Biosphere Programme; the US EPA National Advisory Council for Environmental Policy and Technology (NACEPT): the National Research Council Board on Sustainable Development, Committee on Global Change Research: the National Research Council, Board on Global Change; the US National Committee for the Man and the Biosphere Program, and the National Marine Fisheries Service Committee on Ecosystem Principles .Dr. Costanza's research has focused on the interface between ecological and economic systems, particularly at larger temporal and spatial scales. This includes landscape level spatial simulation modeling; analysis of energy and material flows through economic and ecological systems; valuation of ecosystem services, biodiversity, and natural capital; and analysis of dysfunctional incentive systems and ways to correct them. He is the author or co-author of over 300 scientific papers (including; Costanza, R. Ecological economics; reintegrating the study of humans and nature, Ecological Applications 6:978-990 (1996); Costanza et. al. The value of the world's ecosystem services and natural capital. Nature 387:253-260 (1997) and Costanza et. al., Principles for sustainable governance of the oceans, Science 281:198-199 (1998)) and 18 books (including: Ecological economics: The science and management of sustainability (1991), Ecosystem health; new goals for environmental management (with Bryan Norton and Ben Haskell, 1992), Getting down to earth: practical applications of ecological economics (with Olman Segura, and Juan Martinez-Alier, 1996), An Introduction to Ecological Economics (with John Cumberland, Herman Daly, Robert Goodland and Richard Norgaard, 1997) and The local politics of global sustainability (with Tom Prugh and Herman Daly, 2000). His work has been cited in more than 1900 scientific articles since 1987 (according to the Science Citation Index - http://wos.isiglobalnet2.com) and more than 80 interviews and reports on his work have appeared in various media, including Newsweek, US News and World Report, the Wall Street Journal, the Economist, the New York Times, Science, Nature, National Geographic, and National Public Radio. Current grant support includes: an NSF Long Term Ecological Research (LTER) project "Human Settlements as Ecosystems: Metropolitan Baltimore from 1797-2100; an NSF grant for A web-accessible knowledge base for the integrated analysis and valuation of ecosystem service; grants from the Northeastern States Research Cooperative for "Assessing the Social and Economic Value of Ecosystem Services in the Northern Forest: A Geographic Information System (GIS) Approach to Landscape Valuation," and "Designing a New Model for Sustainable Ecological Tourism in the Northern Forest Region: an Atelier Course," and a grant from the Gund Foundation for an "Earth Shareholder's Report." Dr. Terry C. Daniel is Professor of Psychology and Renewable Natural Resources at the University of Arizona. He received his PhD in

Daniel, Terry

University of Arizona Psychology at the University of New Mexico in 1969. More than thirty years of sponsored research in Environmental Psychology has focused on the development and application of methods for quantifying relationships between bio-physical features of natural environments and human perception and judgment of environmental quality. Specific areas of research include: aesthetic and recreational impacts of forest management options (e.g., harvest, insect, disease and fire impacts, watershed improvement, regeneration/plantation): air pollution effects on perceived visual air quality, scenic and recreation values in national parks and wilderness areas; in-stream flow effects on perceived quality of wild and scenic rivers; effects of environmental/ecological information on public perception and acceptance of ecological restoration programs; roles for environmental data visualization and computer simulation in evaluating public environmental policies and plans; preferred safety x aesthetics x naturalness tradeoffs in fire prone forest residential areas; and public perception and acceptance of fuel reduction wildfire risk management strategies. Professor Daniel is a Fellow in the American Psychological Association (Population and Environmental Psychology), past-president and co-founder of the Resource Technology Institute, a member of the Advisory and Founding Committees for the Udal Institute for Public Policy Studies and a member of the editorial board for several international scientific journals. He has served as Director of several relevant national projects, including Are We Killing America's Forests? (broadcast television documentary for PBS, KUAT TV and USDA Forest Service), The Green Scene: Introduction to Forest Ecology and Wilderness (environmental education program, USDA Forest Service and The Wilderness Society) and Forest Health Technology: 2000 (national strategic plan for USDA Forest Service, State and Private Forestry), Recent grant and contract support sources include, USDA Forest Service, National Science Foundation, USDI National Park Service, and US EPA Science Advisory

		Board.
Farber, Stephen	University of Pittsburgh	Dr. Stephen Farber is a full professor in Graduate School of Public and International Affairs, University of Pittsburgh. He is Director of the Public and Urban Affairs program. Dr. Farber received a BA in Economics from Grinnell College and his PhD in Economics from Vanderbilt University. Dr. Farber's expertise is in the economics of ecosystems, including functional relationships and valuation. He is especially interested in coastal wetlands systems. Dr. Farber currently serves on an NAS panel investigating the Coastal 2050 Plan for Louisiana. Also, he is currently on the Proposal Review Board of Louisiana Governor's Office of Coastal Studies. Dr. Farber is also working as Co-Principal Investigator (PI) with a team of scientists at LSU on \$5 million, 5 year grant from NOAA on coastal wetlands functions and values. He just completed a contract on the economic development value of conversion of abandoned rail systems for recreation. He is also PI on \$250,000 grant from State of Pennsylvania to develop and administer a GIS training program for watershed groups.
Finucane,Melissa	Kaiser Permanente	Dr. Finucane has worked as a Research Scientist since 1997 with Drs. Paul Slovic, Donald MacGregor, Terre Satterfield, Robin Gregory, and others at Decision Research, Eugene, Oregon. In 2001, Dr. Finucane moved to Honolulu, Hawaii, to work as a Research Investigator at Kaiser Permanente's Center for Health Research. Dr. Finucane received a Master of Psychology (Clinical) and a Ph.D. in Psychology from the University of Western Australia in 1997. Dr Finucane's research interests are in human judgment and decision-making, risk perception and risk communication, and psychological factors that influence the valuation of environmental policies. Current projects focus on answering questions such as: How can narrative techniques be used to elicit and articulate values in order to engage lay stakeholders in dialogue about environmental values? How can we best help lay stakeholders think through public policy decisions? What traditional practices are of potential utility to modern processes of amelioration or mitigation of the perceived effects of genetically modified organisms? How do environmental values change across contexts and are some interventions really "taboo?" To what extent does research on environmental and health risk perceptions in the developed world generalize to developing world contexts? Dr. Finucane recently completed studies on: understanding and predicting public perceptions about acceptable quarantine risks; designing quality reports that support informed consumer decisions; explicating the interplay of cognition and emotion in human judgment and decision making; clarifying the role of socio-cultural values in the perception of environmental, health, and financial risks; and examining how decision processes are affected by aging-related socio-psychological changes. Blending an applied focus on real-world problems with an interest in basic psychological experimentation, Dr. Finucane's research concentrates on adapting existing paradigms and developing new methods to make the study of subtle valuati
Freeman,A. Myrick	Bowdoin College	Dr. Myrick Freeman III is the William D. Shipman Research Professor of Economics at Bowdoin College. In 2000 he retired from teaching after 35 years. Freeman received his Ph.D. in economics from the University of Washington in 1965. He has been on the faculty at Bowdoin since that time and has served as chair of the economics department and Director of the Environmental Studies Program there. He has also held appointments as Visiting College Professor at the University of Washington and Robert M. La Follette Distinguished Visiting Professor at the University of Wisconsin-Madison and as a Senior Fellow at Resources for the Future, a research organization in Washington, DC. Freeman's principal research interests are in the areas of applied welfare economics, benefit-cost analysis, and risk management as applied to environmental and resource management issues. Much of his work has been devoted to the development of models and techniques for estimating the welfare effects of environmental changes such as the benefits of controlling pollution and the

		damages to natural resources due to releases of chemicals into the environment. He has authored or co-authored eight books including Air and Water Pollution Control: A Benefit-Cost Assessment, and The Measurement of Environmental and Resource Values: Theory and Methods. He has also published more than 70 articles and papers in academic journals and edited collections. Freeman has been a member of the Board on Toxicology and Environmental Health Hazards of the National Academy of Sciences and has served as a member of the Advisory Council on Clean Air Compliance Analysis, the Clean Air Science Advisory Committee, and the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency. Most recently, he chaired the EPA SAB Review Panel on UST/RCRA Benefits, Costs, and Impacts Assessment.
Grasso, Domenico	Smith College	Dr. Domenico Grasso is the Rosemary Bradford Hewlett Professor and Founding Director of the Picker Engineering Program a Smith College and holds adjunct faculty appointments at the Universities of Connecticut and Massachusetts and Yale University. The Smith Engineering Program, the first at a women's college in the United States, attempts to educate engineers in a holistic approach (inter alia scientific, economic, and social) to technological decision-making. An environmental engineer who studies the ultimate fate of contaminants in the environment and develops new techniques to destroy or otherwise reduce the risks associated with these contaminants to human health or natural resources, he focuses on molecular scale processes that underlie nature and behavior of contaminants in environmental systems. He holds a B.Sc. from Worcester Polytechnic Institute, an M.S. from Purdue University and a Ph.D. from The University of Michigan. He is a registered Professoral Engineer in the states of Connecticut and Texas, and was Professor and Head of Department in Civil & Environmental Engineering at the University of Connecticut prior to joining Smith. He has been a Visiting Scholar at University of California Berkeley, a NATO Fellow, and an Invited Technical Expert to the United Nations Industrial Development Organization in Vienna Austria. He is currently a member of the United States Environmental Protection Agency Science Advisory Board, Past-President of the Association of Environmental Engineering & Science Professors, and Editor-in-Chief of Environmental Engineering Science. He has authored more than 100 technical papers & reports, including four chapters and two books. Federal, state and industrial organizations have supported his research work.
Grossman,Dennis	NatureServe	Dr. Dennis H. Grossman is the Vice President for Science at NatureServe, a non-profit conservation organization working throughout the Western Hemisphere. He holds a B.S. in ecology from the University of Wisconsin (1976), an M.S. in Plant Ecology from the University of Wisconsin (1982), and a Ph.D. in Plant Ecology from the University of Hawaii (1991). Prior to working at the Conservancy, Dr. Grossman was Chief Ecologist at The Nature Conservancy for 12 years after working as a Research Fellow at the Environment and Policy Institute of the East-West Center in Honolulu. Dr. Grossman has worked extensively with vegetation science, ecology, and conservation biology projects across the Upper Midwest, California, and Hawaii as well as in India and Indonesia. These projects include the inventory, data management and analysis, classification, mapping, conservation ranking and conservation planning for terrestrial, freshwater and coastal-marine communities. Dr. Grossman was a principal developer of the National Vegetation Classification System for the United States that is currently endorsed as an inter-agency standard by the Federal Geographic Data Committee. He has published numerous articles on ecological classification and conservation and currently manages numerous projects associated with the implementation of these methods. Dr. Grossman is a member of the Ecological Society of America and the Society for Conservation Biology, and serves Vegetation Subcommittee of the Federal Geographic Data Committee and on the executive committee of the ESA Panel for Vegetation Classification. Grant and contract support comes primarily from federal agencies, private foundations and the National Science Foundation.
Hanemann, W. Michael	University of California	Dr. W. Michael Hanemann is Chancellor's Professor in the Department of Agricultural and Resource Economics and Goldman School of Public Policy at the University of California, Berkeley. Dr. Hanemann's research interests include non-market valuation, environmental economics and policy, water pricing and management, demand modeling for market research and policy design, the economics of irreversibility and adaptive management, and welfare economics. Dr. Hanemann's recent publications have addressed valuation and management of tropical forests, temporal reliability of estimates from contingent valuation, referendum design and contingent valuation, the economic theory of Willingness To Pay and Willingness To Accept, and the statistical analysis of discrete-response, welfare analysis with discrete choice models. Dr. Hanemann was educated at Oxford University (B.A.), the London School of Economics (M. Sc.), Harvard University, (M.A.in Public Finance and Decision Theory and Harvard University (Ph.D. in Economics).
Harrison, Keith	Michigan Environmental	Mr. Keith G. Harrison has been employed with the state of Michigan for 23 years. For the last 11 years, he has held two concurrent positions within state government. He has served from 1992 -1997 as the Director of, initially, the Michigan Department of Management

	Science Board	and Budget's Environmental Administration Division and, later (since 1997) due to interdepartmental transfer, the Michigan Department of Environmental Quality's Office of Special Projects (OSP). He also has served since 1992 as the Executive Director of the Michigan Environmental Science Board. Concurrent with the two positions above, he currently is assigned as a consultant to the U.S. Environmental Protection Agency Science Advisory Board's Ecological Processes and Effect Committee, and from May to October 2001, he served as the Acting Director of the Michigan Office of the Great Lakes. Previous positions held within state government include two years as Environmental Affairs Manager for the Michigan Department of Corrections; five years as Senior Environmental Specialist for the Michigan Toxic Substance Control Commission, and four years with the Michigan Department of Public Health. Prior to state service, Mr. Harrison was employed as a Senior Ecologist with an environmental engineering firm; Chief Environmental Planner for a regional planning agency; and Sanitarian with a local county health department. Mr. Harrison obtained his Bachelor of Science degree in 1972 in fisheries and wildlife biology from Michigan State University and a Master of Arts degree in 1974 in biology (ecology) from Western Michigan University. He has been licensed since 1978 as a Registered Sanitarian and Registered Environmental Health Specialist, and, since 1981, has been certified as an Ecologist by the Ecological Society of America. Mr. Harrison's professional research and work have resulted in over 80 governmental and professional scientific publications addressing a wide variety of environmental, environmental health, natural history, and natural resources management topics. His areas of expertise are ecology, environmental science, and environmental health science. He has recently served as Michigan's representative to the Great Lakes Commission's Project Management Team on the development of a decision tool to review the use
Heal, Geoffrey	Columbia Univeristy	Dr. Geoffrey Heal is the Paul Garrett Professor of Public Policy and Corporate Responsibility and Professor of Economics and Finance at Columbia Business School and Professor in the School of International and Public Affairs. He is a member of the Executive Committee of the Columbia Earth Institute. Dr. Heal earned a First Class Honors Degree, Cambridge University, U.K. Major in Economics and Minor in Physics (1966). He completed his graduate studies in Economics and Mathematics at University of California, Berkeley, 1966-67. He earned his PhD in Economics at Cambridge University (1968). Dr. Heal's area of expertise and research include: Economic theory, General equilibrium theory, Economics of insurance and reinsurance and of risk-management, Economics of natural and environmental resources, Interface between economics and the natural sciences with respect to environmental issues. He has served as Chair of the National Academy – National Research Council Committee on the Valuation of the Services of Aquatic and Related Terrestrial Ecosystems. He is also the Commissioner of the Pews Ocean Commission, Director of the Union of Concerned Scientists and the Beijer Institute of Ecology and Economics of the Royal Swedish Academy of Sciences and a member of the President's Committee on Science and Technology (PCAST) Panel on Biodiversity and Ecosystems. Dr. Heal is also a member and Ex-President, Association of Environmental and Natural Resource Economists. Recent grants funding has come from Lockheed Martin for research on the management of discrete interdependent risks.
Holliday, Andrew	National Association of Home Builders	Dr. Holliday is currently Housing Policy Economist at the National Association of Home Builders (NAHB) in Washington, DC. He received his Ph.D. in Economics from the University of Virginia in 1996, following an M.A. from the University of Wisconsin-Madison in 1986, and a J.D. with honors from IIT/Chicago-Kent College of Law in 1973. His Humanities BA is from Michigan State University. He has published a book on antitrust enforcement and presented three papers on that subject; he has also authored numerous studies of local economies. With Elliot Eisenberg, Ph.D., he has published two papers on the behavior of house prices. Dr. Holliday's primary research focus is on the economic impact of regulations on local and regional economies, particularly environmental and land use regulations. His analysis is informed by a solid understanding of the economics of non-marketed resources, including hedonic, contingent valuation, and general equilibrium models. He drafted NAHB's economic comments on the Effluent Limitation Guidelines for the Construction and Development Category, and he guided the production of NAHB's proposal for the economic analysis of critical habitat designation under the Endangered Species Act, coordinating the work of economists, lawyers, biologists, and policy experts.
Huggett, Robert	Michigan State University	Dr. Robert J. Huggett was appointed Vice President for Research and Graduate Studies at Michigan State University in June 1997. Before that, he was Assistant Administrator for Research and Development at the U.S. Environmental Protection Agency from 1994 to 1997. He is a Professor Emeritus at the College of William and Mary in Williamsburg, VA, where he was a faculty member for 20 years. During those years he also served as Chair of the Department of Environmental Science and Chair of the Department of Chemical Oceanography in the School of Marine Science and Head of the Division of Chemistry and Toxicology. He earned an M.S. in Marine Chemistry from the

		Scripps Institute of Oceanography at the University of California at San Diego and a Ph.D. in Marine Science at William and Mary. As a scholar, Dr. Huggett has studied the fate and effects of hazardous chemicals in aquatic environments, publishing more than 80 articles. His work has had important effects on international environmental policy and he has been very active in research and policy organizations at the national and international level. While he was at the EPA, he served as Vice Chair of the Committee on Environment and Natural Resources and Chair of the Subcommittee on toxic substances and solid wastes, both of the White House Office of Science and Technology Policy. He also founded the EPA 100 million dollar per year STAR Competitive Research grants program and the 3 million dollar per year STAR Graduate Fellowship program. He presently serves on the Board Research Committee of the American Chemistry Council and on the Board on Environmental Studies and Toxicology of the National Research Council, National Academy of Sciences.
Kramer, Randall	Duke University	Randall A. Kramer is a professor of resource and environmental economics in the Nicholas School of the Environment and the Department of Economics at Duke University. Before coming to Duke in 1988, he taught in the Department of Agricultural Economics at Virginia Polytechnic Institute and State University. He has also held visiting positions at IUCN-The World Conservation Union, the Economic Growth Center at Yale University, and the Indonesian Ministry of Forestry. He has served as a consultant to the World Bank, Asian Development Bank, and other international organizations. He received his PhD from the Department of Agricultural Economics at the University of California Davis in 1980.Kramer's research has focused on ecosystem valuation, water resource economics, and the economics of biodiversity and natural resource management in developing countries. He has published many journal articles and is coeditor of Last Stand: Protected Areas and the Defense of Tropical Biodiversity, Oxford University Press. He has conducted a number of studies related to ecosystem valuation including studies of global rain forest protection, protected area establishment in Madagascar, wetlands restoration in North Carolina, national parks benefits in Indonesia, Southern-Appalachian spruce-fir ecosystem protection, restoration of woodpecker habitat, and protection of water quality. He is currently working on two projects related to ecosystem valuation. One study is looking at the health benefits of preventing deforestation with an emphasis on malaria. The other study is a meta-analysis of the value of statistical life. He has served on advisory panels for the US Department of Agriculture, the State of North Carolina, the Nature Conservancy, the World Conservation Union, and the World Bank. He has served on the Board of Directors for the Association of Environmental and Resource Economists and the Coral Reef Alliance. Recent contract and grant support has come from the Asian Development Bank, MacArthur Foundation, USEPA, US Forest Ser
Lackner, Klaus	Columbia University	Dr. Klaus S. Lackner joined the faculty of Columbia University in 2001, where he is now the Ewing-Worzel Professor of Geophysics in the Department of Earth and Environmental Engineering. He received his Ph.D. in 1978 in theoretical physics from the University of Heidelberg, Germany. He held postdoctoral positions at the California Institute of Technology and the Stanford Linear Accelerator Center before joining Los Alamos National Laboratory in 1983. He has been a scientist in the Theoretical Division for much of that time, but also has been part of the Laboratory's upper management. He held several positions among them Acting Associate Laboratory Director for Strategic and Supporting Research, which represents roughly a third of Los Alamos National Laboratory. Klaus Lackner's scientific career started in the phenomenology of weakly interacting particles. Later searching for quarks, he and George Zweig developed the chemistry of atoms with fractional nuclear charge. He is still participating in matter searches for particles with a non-integer charge in an experiment conducted at Stanford by Martin Perl and his group. After joining Los Alamos National Laboratory, Klaus Lackner became involved in hydrodynamic work and fusion related research. In recent years, he has published on the behavior of high explosives, novel approaches to inertial confinement fusion, and numerical algorithms. His interest in self-replicating machine systems has been recognized by Discover Magazine as one of seven ideas that could change the world. Presently he is developing innovative approaches to energy issues of the future. He has been instrumental in forming ZECA, the Zero Emission Coal Alliance, which is an industry-led effort to develop coal power with zero emissions to the atmosphere. His recent work is on environmentally acceptable technologies for the use of fossil fuels.
MacLean, Douglas E.	University of North Carolina	Dr. Douglas MacLean joined the faculty of the University of North Carolina in 2001 as Professor of Philosophy. He is also a faculty fellow of the Carolina Environmental Project and a member of its Faculty Advisory Committee. He was educated at Stanford University and at Yale University, where he received his Ph.D. in philosophy. His previous positions include research scholar and director of the Institute of Philosophy and Public Policy at the School of Public Affairs of the University of Maryland, professor and chair of the Department of Philosophy at the University of Maryland at Baltimore County, and from 1999 - 2001 he was the Distinguished Chair in Ethics at the U.S. Naval Academy. His research interests are in ethics and decision theory, political philosophy, military ethics and philosophical issues in

		public policy. His research focuses primarily on philosophical issues in risk, technology, and the environment, and the philosophical implications of the psychology and culture of decision-making. He has written extensively on these topics. Dr. MacLean has also served as an advisor or consultant to a number of government agencies, including: the National Science Foundation, the National Endowment for the Humanities, the US Environmental Protection Agency, the US Congress Office of Technology Assessment, the US Nuclear Regulatory Commission, and the Departments of Energy and Agriculture.
Meyer, Joseph S.	University of Wyoming	Dr. Joseph Meyer is an Associate Professor of Zoology and Physiology at the University of Wyoming. He received a B.S. in Chemical Engineering from Lehigh University in 1973 and a Ph.D. in Zoology and Physiology from the University of Wyoming in 1986. Prior to this position, he taught at Humboldt State University from 1990 through 1993, and conducted postdoctoral research in Switzerland from 1987 to 1989. Dr. Meyer's educational and research backgrounds include population biology, aqueous biogeochemistry, and the fate and effects of nutrients and pollutants in aquatic systems. Most recently, he has been involved in development of the biotic ligand model for predicting the acute toxicity of metals to aquatic biota. Currently, Dr. Meyer serves on the Boron Ecotoxicology Advisory Group (BEAG) for U.S. Borax, Inc. From 1998 through 2002, he served on the Health and Ecological Effects Subcommittee (HEES) of the U.S. EPA Science Advisory Board's Advisory Council on Clean Air Compliance Analysis (ACCACA). Prior to that, he served on Environment Canada's Environmental Resource Group for the Assessment of Chloramine under the Canadian Environmental Protection Act (1996-1999); on Advisory Council on Clean Air Compliance Analysis's Physical Effects Subcommittee (PERS) (1994-1997); on the Electric Power Research Institute's Water Toxics Advisory Committee (1993-1996); and on a U.S. Department of Energy review panel addressing damages and benefits of several fuel cycles (1992-1993). Dr. Meyer is a member of the Society of Environmental Toxicology and Chemistry (SETAC), for which he currently serves as a member of the Board of Directors of the Rocky Mountain Chapter. Current and recent funding for his research has been provided by the following agencies, organizations, foundations, and individuals: U.S. EPA, U.S. Geological Survey, U.S. Forest Service, U.S. Fish and Wildlife Service, Wyoming Department of Environmental Quality, Water Environment Research Foundation, International Copper Association, International Lead Zinc Re
Mooney, Harold	Stanford University	Dr. Harold A. Mooney holds the Paul S. Achilles Professorship in Environmental Biology at Stanford University. He received his PhD from Duke University in 1960 and was an Associate Professor at the University of California in Los Angeles until 1968 when he came to Stanford. His research on the carbon balance of plants has provided a major theoretical framework for ecophysiological studies, and has been instrumental in the incorporation of physiological understanding to studies of ecosystem processes. This work has also led to several lines of research on the nature of interactions of plants with their biotic environment, and has provided an objective measure for evaluating many of the current theories of plant-animal interaction. He has demonstrated that convergent evolution takes place in the properties of different ecosystems that are subject to comparable climates, and has pioneered in the study of the allocation of resources in plants. He has worked in many of Earth's diverse ecosystems, including the arctic-alpine, the mediterranean-climate scrub and grasslands, tropical wet and dry forests, and the deserts of the world. He is currently engaged in research on the impacts of global change on terrestrial ecosystems, especially on productivity and biodiversity, and is also examining those factors that promote the invasions of non-indigenous plant species. In recent years he has been involved in organizing international activities through which he brought together people from many diverse disciplines to address topics that promise to contribute substantially to the advancement and integration of ecology. Most recent of these are the programs on A Global Strategy for Invasive Species and on the Ecosystem Function of Biodiversity, both sponsored by the Scientific Committee on Problems of the Environment (SCOPE). He worked to develop a global program on biodiversity science (Diversitas) and its associated project, the International Biodiversity Observation Year (IBOY). He served on the Scientific Steering Committ

		Secretary General of the International Council for Science. He is an editor on Trends in Ecology and Evolution, Environment and Pollution, Global Change Biology, Global Environmental Research, Ecosystems, Journal of Mediterranean Ecology, and Biological Invasions, as well as Series editor of Physiological Ecology (Academic Press), and Ecological Studies (Springer-Verlag). Among his many honors, he was elected to the National Academy of Sciences, the American Academy of Arts and Sciences, and the American Philosophical Society. He has received the Eminent Ecologist Award and the Mercer Award of the Ecological Society of America, a Humboldt Senior Distinguished U.S. Scientist Award, the Max Planck Research Award, and the Ecology Institute Prize for Terrestrial Ecology, the Nevada Medal Award and the Blue Planet Prize. He worked in Chile and France as a National Science Foundation Senior Postdoctoral Fellow and in Australia and Africa as a Guggenheim Fellow. He was chosen as a Fellow of the American Association for the Advancement of Science and a foreign member of the Russian Academy of Sciences. His recent research funding includes the following: Whole-Ecosystem Responses to Multi-Factor GlobalChange: Long-Term Responses in the Jasper Ridge Global Change Experiment Packard Foundation; The Jasper Ridge Global Change Experiment: Biocomplexity in Ecosystem Responses to Long-Term Environmental Changes National Science Foundation; Root Distribution, Phenology, and Carbon Balance Department of Energy/National Institute for Global Environmental Change; Ecological Problems at Intermediate Scales of Space and Time: An Integrated Training Program Mellon Foundation. He is also a member of the Ecological Society of America, the British Ecological Society, Sigma XI, and the American Institute of Biological Sciences.
Norgaard, Richard	University of California at Berkeley	Dr. Richard B. Norgaard is Professor of Energy and Resources and of Agricultural and Resource Economics at the University of California at Berkeley. Professor Norgaard was a Project Specialist with the Ford Foundation in Brazil (1978 and 79) where he worked on the environmental problems of Amazon development. Among a variety of professional assignments around the world, he served on a UNDP economic assessment team in Vietnam (1989) and as a visiting scholar at the World Bank (1991). Professor Norgaard currently holds the office of Past President of the International Society for Ecological Economics (2002-3) after serving as its President (1998-2001). He also serves on the Board of Directors of the American Institute of Biological Sciences, on the Board of Directors of Redefining Progress, an NGO he co-founded, and on the Board of Directors of EcoEquity. He has served (1992-98) on the U.S. Committee of the Scientific Committee on Problems of the Environment (SCOPE) and numerous committees of the National Research Council and former Office of Technology Assessment. Professor Norgaard currently contributes to the fields of environmental epistemology (supported by an NSF Biocomplexity Grant), ecological economics, and neoclassical environmental economics. His research currently addresses how we understand complex, global issues with additional work being undertaken in the area of trade and the environment. His research over three decades has been wide ranging and has appeared in the journals and books of a number of disciplines beyond economics. Dr. Norgaard holds a PhD in Economics from the University of Chicago (1971), an MS in Agricultural Economics with a minor in water resources engineering from Oregon State University (1967), and an AB in Economics from the University of California at Berkeley (1965).
Opaluch, James	University of Rhode Island	Dr James Opaluch is a professor of Environmental Economics at the University of Rhode Island. He received a Ph.D. in Economics and Masters Degree in Statistics both from the University of California, Berkeley. Dr. Opaluch has been actively involved in issues related to natural resource and environmental policy for many years. Dr. Opaluch is an internationally recognized expert in natural resource valuation and damage assessment, and has served as an expert witness in over 20 major natural resource damage assessment cases. Other projects include development of the original Type A model for assessing natural resource damages under CERCLA (incorporated in Federal Regulations); evaluation of the potential social costs of the national five-year offshore oil and gas leasing program; comprehensive assessments of proposed national environmental regulations; development of a methodology for landfill siting for the state of Rhode Island, and estimating uses and values of the Peconic Estuary System as part of the National Estuaries Program. Dr Opaluch was recently invited to serve on the United Nations Environmental Program's Working Group of Consultative Experts to provide advice and training to policy professionals throughout the world. Dr. Opaluch has served on a number of national committees, including National Academy of Science panel to assess the OCS Environmental Studies Program, National Academy of Science Panel on PCB Contamination Sites, National Academy of Science committees to assess the adequacy of environmental information on Georges Bank, South Florida, California and Alaska, the U.S. Minerals Management Service Social Science Research Panel, and Governing Board Associate of the American Agricultural Economics Association. Dr Opaluch has served in a variety of professional capacities, including Associate Editor of the American Journal of Agricultural Economics, President of the Northeast Agricultural and Resource Economics Association of the Agricultural Economics Review and Director of the Northeast

		Agricultural and Resource Economics Association. Dr. Opaluch been recipient of various awards, including Research Scientist of the Year at the University of Rhode Island, College of Resource Development, Outstanding Service Award from the Northeast Association of Agricultural and Resource Economics, Outstanding Dissertation Award of the American Agricultural Economics Association and has served as advisor to four Theses that were winners of the American Agricultural Economics Association thesis awards. Dr. Opaluch as received research support from many private corporations and federal agencies, including the National Science Foundation, the U.S. Environmental Protection Agency, the U.S. Department of the Interior, and the National Oceanic and Atmospheric Administration. Dr. Opaluch has authored or co-authored numerous papers in refereed journals, including the Journal of Environmental Economics and Management, the Rand Journal of Economics, American Journal of Agricultural Economics, Land Economics, Applied Economics, Coastal Management, Natural Resource Journal, Marine Resource Economics, and Oil and Chemical Pollution and has written many technical reports and chapters in books. His publications have made important contributions to basic knowledge and to public policy applications on issues of national, international and global significance.
Pendleton,Linwood	University of Wyoming	Dr. Linwood H. Pendleton is an Assistant Professor of Economics and Finance at the University of Wyoming. In 2001 he (along with several colleagues) implemented a yearlong telephone panel survey and an exhaustive inventory of beach attributes for three southern California coastal counties. Now they are developing panel random utility models of beach choice in the face of temporally varying water quality hazards. The research is joint with Michael Hanemann of the University of California at Berkeley and David Layton of the University of Washington. Understanding the Links Between Consumer Demand and Regulatory Action: Mechanisms for Reducing Toxic Emissions in the United States and Abroad This research, joint with Tisha Emerson, examines the ways in which changing consumer demand for environmental quality can lead to improvements (abatements) in industrial pollution. The research focuses a) on the role of toxicity and environmental disamenity is determining toxic releases in the United States and b) on the role of information asymmetries and the reduction of pollution internationally. Regulation and Risk: Coastal Fisheries is a research program that looks at the ways in which regulations, especially those that are motivated by biological management goals, impact the economic and risk taking behavior of commercial fishermen. Regional Studies of the Coastal Ocean Observing System is work, joint with Hauke Kite-Powell, Charles Colgan, and others, that attempts to find the potential economic value of major improvements in the collection, modeling and dissemination of oceanographic data from remote and local coastal ocean observing systems. National Ocean Economics Project is a research program, lead by Judith Kildow and Charles Colgan that is working to build a system of national economic accounts to monitor the ecological and economic health of the coastal sector. Dr. Pendleton's work on the project involves the development of theoretical and applied methods to assess and aggregate national data on the economic val
Pitelka, Louis F.	University System of Maryland,	Dr. Louis Pitelka is Director and Professor at the Appalachian Laboratory of the University of Maryland Center for Environmental Science. Research at the Appalachian Laboratory covers terrestrial and freshwater ecology with an emphasis on landscape and watershed ecology. Dr. Pitelka received a B.S. in zoology from the University of California at Davis and a Ph.D. in biological sciences from Stanford University. Before moving to the University of Maryland in 1996, he held positions at Bates College, the National Science Foundation, and the Electric Power Research Institute. Dr. Pitelka's areas of expertise include plant ecology, ecosystem ecology, and global change. His research activities have ranged from studies of the population biology of forest understory herbs to the responses of terrestrial ecosystems to climate change. Dr. Pitelka has served on numerous planning, coordinating, and review committees for both national and international organizations. He currently is the Chair of the Global Change and Terrestrial Ecosystems (GCTE) core project of the International Geosphere-Biosphere Program (IGBP), is a member of the AIBS Working Group (funded by NSF) on Infrastructure for Biology at Regional to Continental Scales, and serves on the DOE Biological and Environmental Research Advisory Committee. He recently completed a five-year term as a member of the Design Committee for The State of the Nation's Ecosystems, a project of the H. John Heinz Center, and served eight years on the Science Advisory Committee for the EPA-funded Center for Ecological Health Research at the University of California, Davis. He is the current President of the Association of Ecosystem Research Centers. Dr. Pitelka recently completed a six-year term as Editor-in-Chief of Ecological Applications, and now serves on the editorial boards of Oecologia and Frontiers in Ecology and the Environment. He currently manages a grant from the Andrew W. Mellon Foundation. Other recent sources of funding (mostly for workshops) have included the U.S. F
Poe, Gregory	Cornell University	Dr. Gregory L. Poe is an Associate Professor in the Department of Applied Economics and Management at Cornell University, and a member of the Graduate Specializations of Environmental and Resource Economics, Public Policy Analysis, and Water Resources. He

		joined the Cornell faculty after serving in the Peace Corps and earning his M.S. (Agricultural Economics) and Ph.D. (Natural Resource Economics) from the University of WisconsinMadison. His present appointment involves research, teaching, and extension in environmental policy, and his corresponding research and outreach program focuses on applied welfare economics, non-market valuation, experimental economics, and non-point source pollution policy. Other areas of research have included fisheries management in developing countries, geographical information systems, erosion economics, and technical efficiencies in agricultural production. While on sabbatical leave he served as a Visiting Fellow at the Jackson Environmental Institute (JEI) and the Centre for Economic and Social Research on the Global Environment (CSERGE) at the University of East Anglia, UK, working with an EU funded project valuing air pollution damages to remote mountain lake ecosystems in the UK and Europe. Professor Poe has served as a Review Panel Member for the EPA/Science Advisory Board, UST /RCRA (Subtitle C) Benefits, Costs, and Impacts, 2002. His current research is funded by the NSF (Ecosystem Values and Surface Water Protection: Basic Research on the Contingent Valuation Method, SES-109667), the US EPA STAR Program (An Experimental Economics Examination of Incentive Mechanisms for Reducing Ambient Water Pollution Levels fro Agricultural Non-Point Source Pollution, # pending), and USDA Hatch and Regional Research Project funds.
Polasky, Stephen	University of Minnesota	Dr. Stephen Polasky holds the Fesler-Lampert Chair in Ecological/Environmental Economics at the University of Minnesota. He is a faculty member of the Department of Applied Economics and of the Department of Ecology, Evolution and Behavior. He is also co-director of Graduate Studies for the Conservation Biology Program. He received his Ph.D. in economics from the University of Michigan in 1986. Prior to coming to Minnesota he held faculty positions in the Department of Agricultural and Resource Economics at Oregon State University and the Department of Economics at Boston College. He was the senior staff economist for environment and resources for the President's Council of Economic Advisers 1998-1999. He served as associate editor and co-editor for the Journal of Environmental Economics and Management from 1996 to 2002. He is currently serving as a member of the Environmental Economics Advisory Committee of U.S. EPA's Science Advisory Board, as a member on a National Research Council Committee on Assessing and Valuing Services of Aquatic and Related Terrestrial Ecosystems, and as Co-Chair for Core Project 3: Developing the Science of Conservation and Sustainable Use of Biodiversity for DIVERSITAS. His research interests include biodiversity conservation and endangered species policy, integrating ecological and economic analysis, game theoretic analysis of natural resource use, common property resources, and environmental regulation. He recently edited a book entitled The Economics of Biodiversity Conservation. Since 2000 he has received grant support from the USDA Forest Service for two cooperative agreements (Predicting ecological and social impacts of riparian landuse in a north central lakescape; Open space and property values: an urban economics model with application to the Twin Cities Region), and support from two research grants with US EPA (Land management with biological and economic objectives; Developing methods and tools for watershed restoration design, implementation, and assessment in the Willam
Richels ,Richard	Electric Power Research Institute	Dr. Richard Richels directs global climate change research at the Electric Power Research Institute (EPRI) in Palo Alto, California. In previous assignments, he directed EPRI's energy analysis, environmental risk, and utility planning research activities. He has served on a number of national and international advisory panels, including committees of the Department of Energy, the Environmental Protection Agency, and the National Research Council. He has served as an expert witness at the Department of Energy's hearings on the National Energy Strategy and testified at Congressional hearings on priorities in global climate change research. In addition, Dr. Richels has served as a lead author for the Intergovernmental Panel on Climate Change's (IPCC) Second and Third Scientific Assessments and served on the Synthesis Team for the U.S. National Assessment of Climate Change Impacts on the United States. He currently serves on the Scientific Steering Committee for the US Carbon Cycle Program and the Advisory Committee for Princeton University Carbon Mitigation Initiative. Dr. Richels is a co-author of Buying Greenhouse Insurance - the Economic Costs of CO2 Emission Limits (with Alan Manne). He has written a number of papers on operations research, energy and environmental policy, and energy research and development. He has served as Editor of the Energy, Environment and National Resources area of the Operations Research Journal. He has also served on the Board of Editors of The Energy Journal and the Journal of Applied Stochastic Models and Data Analysis. His current research interests are related to the issues of induced technical change, assessing the costs and benefits of climate change management proposals, identifying the potential impacts of climate change and how they may vary with the choice of mitigation and adaptation initiatives, and the valuation of market and non-market impacts. Dr. Richels received a B.S. degree in Physics from the College of William and Mary in 1968. He was awarded an M.S. degree in 19

Risser, Paul G .	Oklahoma State Regents for Higher Education	Dr. Risser currently serves as Chancellor of the Oklahoma Higher Education System. Previously he served as President of Oregon State University (7 years), President of Miami University (3) years, and 6 years as Vice President for research and then Provost at the University of New Mexico. His bachelor's degree in biology is from Grinnell College, and his M.S. and Ph.D. in botany and soils is from the University of Wisconsin. He is a fellow of the AAAS and of the American Academy of Arts and Sciences. Dr. Risser's research has focused on ecosystem analysis, ranging from the physiological ecology of single species to mathematical models of entire ecosystems, especially as they respond to management. Dr. Risser has chaired and served on numerous committees for the NSF, NRC, and other state and federal agencies. He is the past president of the Ecological Society of America, American Institute of Biological Sciences, and of the Southwestern Association of Naturalists. His research funding has originated from numerous federal, state and private sources, including NSF, EPA, and DOE. He is not currently funded by any federal agency.
Rolston, Holmes	Colorado State University	Dr. Holmes Rolston is University Distinguished Professor of philosophy at Colorado State University. He has written six books, acclaimed in critical notice in both professional Journals and the national press. The more recent are: Genes, Genesis and God (Cambridge University Press, 1999), Science and Religion: A Critical Survey (Random House, McGraw Hill, Harcourt Brace), Philosophy Gone Wild (Prometheus Books) Environmental Ethics (Temple University Press), and Conserving Natural Value (Columbia University Press). He has edited Biology, Ethics, and the Origins of Life (Jones and Bartlett, Wadsworth). He has written Calvers in eighty other books and over one hundred articles. Rolston has spoken as distinguished lecturer on all seven continents. He gave the opening conference address to the Royal Institute of Philosophy annual conference, Cardiff, Walss, 1993. He was Distinguished Lecturer in Beijing, China, at the invitation of the Chinese Academy of Social Sciences, Institute of Philosophy. He participated by invitation in pre-conferences and the United Nations Conference on Environment and Development in Rio de Janeiro, 1992, where he was an official observer. He spoke at the World Congress of Philosophy, Moscow, 1993, and again in Boston, 1998. Rolston was distinguished lecturer at the 28th Nobel Conference, 1992, at Gustavus Adolphus College, Minnesota, authorized by the Nobel Foundation, Stockholm. The American Philosophical Association named him a distinguished speaker at their Pacific Division, with a three hour panel devoted to his work. He was awarded the Distinguished Visiting Russell Fellow at the Center for Theology and the Natural Sciences, Graduate Theological Union, Berkeley. In 1991, a research conference was held in Berkeley devoted to his work and the results have been published. He was Distinguished Scholar leading a National Endowment for the Humanities colloquium at North Idaho College. He delivered the Gifford Lectures, University of Edinburgh, 1997/1998. He was awarded a Doctor of Letters

		Press, Columbia University Press), through specialized philosophy publishers (Prometheus Books, Philosophical Library), religious presses (Abingdon, Fortress, Westminster/John Knox), and general publishers (United States Government Printing Office, United Nations Environment Programme, Sierra Club Books, Westview Press, Island Press). Rolston has published across a wide spectrum of journals-from leading philosophy journals (Ethics; Philosophy and Phenomenological Research; Inquiry; The Monist, Biology and Philosophy; Canadian Philosophy journals (Ethics; Philosophy and Phenomenological Research; Inquiry; The Monist, Biology and Philosophy; Canadian Philosophy Interpretation; through specialized philosophy journals (Philosophy East and West; Environmental Ethics; Zygon; Journal of Medicine and Philosophy) to leading science journals (BioScience; Natural History, Conservation Biology, Journal of Forestry, Quarterly Review of Biology, Journal of the American Veterinary Medical Association, Perspectives in Biology and Medicine, Biodiversity and Conservation), to professional law journals (University of Colorado Law Review, Yale Journal of International Law) and intellectual religious journals (Christian Century; Commonweal; Christianity Today). He has published in American Forests and The Environmental Professional. Rolston has served as a consultant with over two dozen conservation and policy groups, including the U. S. Congress and a Presidential Commission. He is a member of the Working Group on Ethics of the World Conservation Union (IUCN). He is a founder and the associate editor of Environmental Ethics, a refereed professional journal now in its seventeenth year, and on the editorial board of Zygon: Journal of Science and Religion, Public Affairs Quarterly, Environmental Values, The South African Journal of Philosophy / Suid-Afrikaanse Tydskrif vir Wysbegeerte, Socijalna Ekologija (Zabreg, Croatia), the International Journal of Wilderness, and Conservation Biology. He serves on a half dozen other editorial bo
Roughgarden, Joan	Stanford University	Dr. Joan Roughgarden spent her early childhood in the Philippine Islands and Indonesia. She majored in biology and philosophy at the University of Rochester, and received a Ph.D. in theoretical ecology from Harvard University. She is Professor of Biological Sciences at Stanford University, and author of five books and over 120 papers in academic journals. She founded and directed the Earth Systems Program at Stanford, and was awarded for service to undergraduate education. She has also supervised over 30 doctoral and postdoctoral students. Her current research links ecology with economic theory. She does not have any extramural grants to support the research she's done on ecological economics. She presently has a grant proposal under review at the NSF to continue research on the community ecology of Anolis lizards in the Lesser Antilles.
Sagoff,Mark	University of Maryland	Dr. Mark Sagoff is Senior Research Scholar in the Institute for Philosophy and Public Policy at the School of Public affairs at the University of Maryland, College Park, and has published widely in journals of law, philosophy, and the environment. He was named a Pew Scholar in Conservation and the Environment in 1991; served from 1994-1997 as President of the International Society for Environmental Ethics; for the academic year 1998-99, Sagoff was awarded a fellowship at the Woodrow Wilson International Center for Scholars; his is a Fellow of the Hastings Center, and in 2000 he was elected a Fellow of the American Association for the Advancement of Science. Sagoff has an A.B. from Harvard and a Ph.D. (Philosophy) from the University of Rochester, and he has taught at Princeton, the University of Pennsylvania, the University of Wisconsin (Madison), and Cornell before coming to the University of Maryland.Sagoff served on the Committee on Noneconomic and Economic Value of Biodiversity, Board on Biology, Commission on Life Sciences, National Research Council, 1997-99, is Coeditor of the Journal of Policy Analysis and Management, and belongs to the editorial boards of various journals in ethics, the life sciences, and public policy. Most recently, he received a grant from the EPA/NSF Partnership STAR Program, Award No. 9975770, on for research on Valuation and Collaboration.
Segerson, Kathleen	University of Connecticut	Dr. Kathleen Segerson is Professor and Head in the Department of Economics at the University of Connecticut. Prior to coming to the University of Connecticut, Professor Segerson was an assistant professor of Natural Resource Economics at the University of Wisconsin. She is currently a co-editor of the Ashgate Studies in Environmental and Natural Resource Economics, and a member of the editorial board of the International Yearbook of Environmental and Resource Economics and Contemporary Economic Policy. She has previously served as a co-editor and an associate editor of the American Journal of Agricultural Economics and an associate editor of the Journal of Environmental Economics and Management. She has also served as Vice-President and a member of the Board of Directors of the Association of Environmental and Resource Economists (AERE), and on several other subcommittees for AERE and the American Agricultural Economics Association (AAEA). Dr. Segerson's research focuses on the incentive effects of alternative environmental policy

		instruments, with particular emphasis on the application of legal rules and principles to environmental problems. Specific research areas include: the impact of legal liability for environmental damages in a variety of contexts, including groundwater contamination, hazardous waste management, and workplace accidents; land use regulation and the takings clause; voluntary approaches to environmental protection; the impacts of climate change on U.S. agriculture; and incentives to control non-point pollution from agriculture. Dr. Segerson received a BA degree in mathematics from Dartmouth College in 1977 and a PhD in agricultural and natural resource economics from Cornell University in 1984.
Simpson, David R.	Resources for the Future	Dr. David Simpson is a Senior Fellow at Resources for the Future, a Washington, DC-based nonprofit research organization focusing on issues of environmental and resource management. David has studied the economics of biological diversity, land use, market-based incentives, technological innovation, and issues at the intersection of industrial and environmental policy. He is the author of many journal articles and book chapters on the economics of biodiversity, conservation policy, environmental regulation, and industrial competition, and is the editor of two books. He is also the author of a book manuscript now under review on the economic valuation of biodiversity and ecosystem services. Dr. Simpson is a member of the Editorial Councils of the Journal of Environmental Economics and Management and Environment and Development Economics, and he has chaired the Association of Environmental and Resource Economists' annual workshop. He has lectured and consulted on biodiversity to governments, international aid institutions, and universities on five continents. David received his BA in economics from Whitman College and a Ph. D. in economics from the Massachusetts Institute of Technology. He has taught at Tufts University, and occasionally lectures in other university programs. Prior to joining Resources for the Future, he was an economist specializing in competition policy at the U. S. Department of Justice. He has received grants from many public and private funders, including the Sloan and Ford Foundations, the U. S. Department of Energy, and the European Union.
Slovic, Paul	University of Oregon	Paul Slovic is president of Decision Research and a professor of psychology at the University of Oregon. He studies human judgment, decision-making, and risk analysis, and has published extensively on these topics. Dr. Slovic received a B.A. degree from Stanford University, an M.A. and Ph.D. degree from the University of Michigan, and an honorary doctorate from the Stockholm School of Economics. He is past president of the Society for Risk Analysis and in 1991 received its Distinguished Contribution Award. In 1993, Dr. Slovic received the Distinguished Scientific Contribution Award from the American Psychological Association, and in 1995 he received the Outstanding Contribution to Science Award from the Oregon Academy of Science. Dr. Slovic has served on numerous advisory committees of the National Research Council/National Academy of Sciences including the committees that wrote "Risk Assessment in the Federal Government: Managing the Process" (1983) and "Understanding Risk: Decision Making in a Democratic Society" (1996). Sources of recent grant and contract support include: National Institute on Aging, National Science Foundation, Agency for HealthCare Research and Quality (AHRQ), Pfizer Corporation, World Health Organization, and Health Care Finance Administration (HCFA).
Smith, Bradley	Western Washington University	Dr. Bradley Smith is Dean of the Huxley College of the Environment at Western Washington University. He has 30 years of national and international experience in the environmental arena including city, state and federal experience. Dr. Smith is formerly a member of the Senior Executive Service USEPA. He holds a BA, an MA in Political Science/Public Administration and a Ph.D from the School of Natural Resources and the Environment (University of Michigan). He has extensive experience in the area of interface between science and policy. Dr. Smith is currently Chair (Governor appt) of the Governor's Sustainable Washington Advisory Board. He is President elect of the Council of Environmental Deans and Directors. Dr. Smith is also Environmental advisor to General Motors Corp. NATO Fellow (risk assessment). He formerly served on the Presidents Council for Sustainability (education task force). Recent financial support includes NSF, GM, USIA and DOE. He has authored several books including Environmental Science-A Study of Interrelationships
Smith, V. Kerry	North Carolina State University	Dr. V. Kerry Smith is University Distinguished Professor and Director, Center for Environmental and Resource Economic Policy in the Department of Agricultural and Resource Economics at North Carolina State University, and he is a University Fellow in the Quality of the Environment Division of Resources for the Future. Since October 2000 he has been a member of the Advisory Council on Clean Air Compliance Analysis of the U.S. Environmental Protection Agency's Science Advisory Board, and in 2001 he was a member of the Arsenic Rule Benefits Review Panel of EPA's SAB. Dr. Smith received his AB in Economics from Rutgers University in 1966 and his Ph.D. in Economics there in 1970. He presented the Frederick V. Waugh Lecture for the American Agricultural Economics Association in 1992, and at the 2002 AAEA annual meeting he was named an association fellow, the association's most prestigious honor. In addition to the AAEA, he is a member of the American Economic Association, the Southern Economic Association, the Association of Environmental and

	Resource Economists, and numerous other professional associations. He has held editorial positions with the Journal of Environmental Economics and Management, Land Economics, Review of Economics and Statistics, and other professional journals. His research interests include non-market valuation of environmental resources, role of public information in promoting private risk mitigation, environmental policy and induced technical change, non-point source pollution and nutrient policy.
Dupont	Dr. Stahl received his B.S. in Marine Biology from Texas A&M University (cum laude) in 1976, his M.S. in Biology from Texas A&M University in 1980 and his Ph.D. in Environmental Science and Toxicology from the University of Texas School of Public Health in 1982. After receiving his Ph.D., he was a Senior Postdoctoral Fellow in the Dept. of Pathology at the University of Washington in Seattle where he investigated the impact of genetic toxins on biological systems. Ralph joined the DuPont Company in 1984 and in the intervening years has held both technical and management positions in the research and consulting arenas. His research over the last 20 years has focused primarily on evaluating the effects of chemical stressors on aquatic and terrestrial ecosystems. He has been involved with oceanographic studies in the Atlantic, Pacific, Gulf of Mexico and Caribbean Sea, biological and ecological assessments at contaminated sites in the US and Europe, and numerous toxicological studies with mammals, birds and aquatic organisms. He has been selected by US EPA, Army Corps of Engineers, Strategic Environmental Research and Development Program, National Academy of Science, the Water Environment Research Foundation, NOAA and others to national peer review panels on ecological risk assessment, endocrine disruption in wildlife, and natural resource injury determination. Ralph is active in the Society of Environmental Toxicology and Chemistry, serving on the Ecological Risk Assessment Advisory Group and the Technical Committee, and is a Diplomate of the American Board of Toxicology. He has authored over 25 peer reviewed publications and two books in environmental toxicology and most recently has been responsible for leading DuPont's corporate efforts in ecological risk assessment and natural resource damage assessments for site remediation. Dr. Stahl chairs the American Chemistry Council's (formerly CMA) Environmental Technical Implementation Panel that is implementing ecological research under the chemical industry's Long
Harvard University	Dr. Robert N. Stavins is the Albert Pratt Professor of Business and Government, Chairman of the Environment and Natural Resources Faculty Group at the John F. Kennedy School of Government, Harvard University, and Director of the Environmental Economics Program at Harvard University. He is a University Fellow of Resources for the Future, Past Chairman of the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency's (EPA) Science Advisory Board, Director of the University-wide Environmental Economics Program at Harvard University; and a Member of: EPA's Clean Air Act Advisory Committee, the Intergovernmental Panel on Climate Change (IPCC), the Board of Directors of the Robert and Renée Belfer Center for Science and International Affairs, the Executive Committee of the Harvard University Committee on Environment (UCE), the Board of Academic Advisors of the AEI-Brookings Joint Center for Regulatory Studies. He serves on Editorial Boards of The Journal of Environmental Economics and Management, Resource and Energy Economics, Land Economics, Environmental Economics Abstracts, B.E. Journals of Economic Analysis & Policy, and Economic Issues. He is also a contributing editor of Environment, and was formerly a member of the Board of Directors of the Association of Environmental and Resource Economists. Professor Stavins' research has focused on diverse areas of environmental economics and policy, including examinations of: policy instruments; diffusion of pollution-control technologies; and depletion of forested wetlands. His current research includes analyses of: technology innovation; environmental benefit valuation; political economy of policy instrument choice; and econometric estimation of carbon sequestration costs. Professor Stavins directed Project 88, a bi-partisan effort co-chaired by former Senator Timothy Wirth and the late Senator John Heinz, to develop innovative approaches to environmental and resource problems. He continues to work closely with public officials on matters o
Princeton University	Dr. Valerie Thomas is a Research Scientist at the Princeton Environmental institute at Princeton University. Dr. Thomas received her Ph.D. in theoretical physics from Cornell University and was a post-doctoral Research Fellow at the Department of Engineering and Public Policy at Carnegie Mellon University. Her research is in the areas of Industrial Ecology and environmental Policy. Recent research topics include
	Harvard University Princeton

		mercury exposure, dioxin sources, the economic demand impacts of second-hand markets, electronics for product recycling, environmental policy in the former Soviet Union, and ethanol as a gasoline lead replacement in Africa. She is co-author of the book "Industrial Ecology and Global Change," (Cambridge University Press, 1994). She is a Member of the Environmental Engineering Committee of the EPA Science Advisory Board. She was Chair of the Metals Assessment Review (2002), and she has participated in the SAB reviews of the Dioxin Reassessment, the Mercury Report to Congress, and the Integrated Risk Project. She is a Fellow of the American Physical Society. She will be vice-chair of the Gordon Conference on Industrial Ecology in 2004 and chair in 2006. She has funding from the US EPA STAR grants program, and from the National Science Foundation.
Thompson., Jr.,Barton H. (Buzz)	Stanford University	Dr. Barton H. Thompson, Jr., is Vice Dean and Robert E. Paradise Professor of Natural Resources Law at Stanford Law School, a Senior Scholar (by courtesy) at the Stanford Institute for International Studies, and a member of both the Core Faculty and Executive Committee of Stanford University's Interdisciplinary Graduate Program in Environment and Resources. He received an A.B. in Economics from Stanford University in 1972, an M.B.A. from the Stanford Graduate School of Business in 1976, and a J.D. from Stanford Law School in 1976. He has been a member of the Stanford faculty since 1986.Professor Thompson's research focuses on the interdisciplinary analysis (with an emphasis on economics, law, and cognitive psychology) of environmental and natural resource policies and the formulation of innovative tools and approaches for addressing environmental and natural resource issues. He has written several articles on the opportunities for and barriers to investments in ecosystem services and co-organized a workshop conference at Stanford University in November 2000 on Protecting Ecosystem Services: Science, Economics, and Law. Over the past three years, Professor Thompson has received grant support from the Hewlett Foundation for a study of global watershed services and the incorporation of these services into watershed decision-making, from the National Science Foundation to develop a formal information infrastructure for regulatory information management and compliance assistance (RegNet), from the Packard Foundation for research on the integration of science and policy in fisheries management, and from the Pew Charitable Trusts for research on regional fishery management councils. Professor Thompson also is a member of the Science Review Panel for the CalFed Environmental Water Account.
Wiese,Arthur	American Petroleum Institute	Dr. Wiese is a Senior Economist in the Policy Analysis and Statistics Department at the American Petroleum Institute where he has worked since 1993. His responsibilities include the economic analysis of a wide-range of regulatory, environmental and natural resource issues of import to the downstream sector. Dr. Wiese has written extensively on the economic impacts of environmental regulations, including publications in academic journals. Recent areas of work include economic analyses of diesel sulfur regulation, Tier 2 gasoline sulfur regulation, and the impacts of renewable fuels mandates and MTBE phase-down. Before joining API, Dr. Wiese served as an economist in the Department of Agriculture from 1990-1993 where he performed economic analysis of energy and trade policy using a general equilibrium framework. He also maintained an active research agenda including the construction of large-scale general equilibrium models and the publication of research in academic journals. Dr. Wiese obtained his Ph.D. in applied economics with specialization in Production, Natural Resource, Public Policy and Statistics from the University of Minnesota in 1991. He also taught an upper division environmental economics course with emphasis in cost-benefit analysis. Dr Wiese is a member of the National Economist Club, and a member of the Cosmos Club where he has hosted seminars related to the economic and environmental impacts of climate change. Dr. Wiese has not recently been the recipient of any grants or funding for research.
Willis,Henry	RAND	Dr. Henry H. Willis earned his Ph.D. in 2002 from the Department of Engineering and Public Policy at Carnegie Mellon. For his dissertation research, Dr. Willis developed and evaluated a method for eliciting informed risk judgments from the general public for incorporation in comparative risk ranking efforts. This required understanding how ecological impacts are valued in comparison to human health impacts. This research was funded by the U.S. EPA (grant R8279200-1-0) and the National Science Foundation (grant SES-9975200). Dr. Willis also holds an M.S. in Environmental Engineering and Science from the University of Cincinnati and a B.A. in Chemistry and Environmental Studies from the University of Pennsylvania. In his current position at RAND, Dr. Willis is continuing research on the use of decision sciences and risk analysis to support public policy decision-making. He is also an active member of the Society of Risk Analysis serving on the Annual Conference Program Committee and Executive Committee for the Risk Communication Specialty Group.